BIRTH EQUITY ACCOUNTABILITY THROUGH MEASUREMENT (BEAM)

A Joint Effort Between Reproductive Health Impact: The Collaborative for Equity & Justice and the National Committee for Quality Assurance

THE BIRTH EQUITY MEASUREMENT FRAMEWORK:

A QUALITY MEASUREMENT STRATEGY TO PROMOTE EQUITABLE BIRTHING CARE

DECEMBER 2023

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EXECUTIVE SUMMARY

Despite recent efforts to promote birth equity, there is currently no quality measurement strategy that highlights best practices for equity-centered measurement. In a joint effort, Reproductive Health Impact: The Collaborative for Equity and Justice (RH Impact) and the National Committee for Quality Assurance (NCQA) partnered for the Birth Equity Accountability through Measurement (BEAM) initiative. The initiative's goal is to develop, validate, and implement an actionable set of measures that align the health care system toward birth equity. Phase I aimed to develop a birth equity measurement framework to promote accountability within and across systems that provide care to birthing people. This report summarizes these activities.

Employing a human-centered design approach, an environmental scan and key stakeholder interviews were conducted to identify areas of concern in the quality measurement landscape that are most relevant to communities impacted by maternal health care disparities. Forty-four birth equity stakeholders, including birthing patients/partners, community-based social service organizations, policy experts/academics, and service providers (including clinicians and birth workers), were interviewed to validate the environmental scan findings, assess alignment of findings with their lived experiences, and identify opportunities to enhance maternity and birth equity measures. A multidisciplinary advisory panel was also engaged throughout these activities to support development of a multidimensional measurement framework and prioritization of birth equity measure concepts.

The Birth Equity Measurement Framework is a dynamic visual that illustrates what needs to be addressed to provide equitable birthing care, and who should be accountable for quality of care in the maternal health care system. The framework comprises a core layer (the birthing person) and three rotating layers (stages of care, birth equity factors, accountable entities) that represent guiding principles for birth equity measurement and the interconnectedness of salient factors to capture in quality measurement. Its four guiding principles are 1.) center the birthing person's background and perspective; 2.) promote accountability across all stages of birthing care; 3.) address the role of social conditions and systems of oppression; and 4.) foster joint accountability across the health care system. Measure developers can apply the framework's dimensions as they shape, prioritize, and develop concepts into measures. Policymakers and other stakeholders can ensure birth-related quality measures included in reporting and/or value-based payment programs align with the framework's guiding principles.

In BEAM Phase II, using the Birth Equity Measurement Framework as a guide, measure bundles will be developed and tested in states/delivery systems to prove their feasibility (data capture and ability to report), validity (information is a true representation of the system being measured), and reliability (ability to distinguish between high and low performance) as indicators of birth equity. At the end of this process, validated, tested measure bundles will be prepared for dissemination and implementation to advance birth equity throughout the health care system.

INTRODUCTION

Non-Hispanic Black birthing people have a significantly higher maternal mortality rate than birthing people of all other racial/ethnic groups in the United States (U.S.).[1,2] Although race-related outcomes differ among birthing people, and emphasize the role of racism and discrimination in maternal health care, current quality measures are insufficient to illuminate these gaps.[2–6] In response to this disparity, stakeholders are actively seeking solutions to promote equity and improve outcomes for birthing populations that are most impacted. Despite recent efforts, the current landscape addressing this issue is limited.

In 2021, the White House announced a call to action to reduce maternal mortality and morbidity, and committed to championing policies to improve maternal health and equity.[7] As part of the Call to Action, the Centers for Medicare & Medicaid Services established a "Birthing-Friendly" hospital designation, which is the first-ever hospital quality designation by the Department of Health and Human Services to focus specifically on maternity care.[7,8] The Black Maternal Health Momnibus Act of 2021 was introduced to comprehensively address the maternal health crisis,[9] and the federal government has funded new efforts focused on improving data exchange and linking clinical and other data for quality measurement and improvement for maternal health.[10] However, no existing quality measurement strategy exhibits best practices for equity-centered measurement. In addition, most existing quality measures are based on components of health care delivery, but do not address racist structures or collaboration between organizations caring for birthing people across settings.[5]

Although voluntary programs to address maternal health inequities have had significant impact, their overall influence has been limited. Currently, there is no way to measure birth equity between different parts of the health care system. Lack of unified data collection systems poses a significant obstacle to assessing the level of birth equity across systems. State-level initiatives, such as Perinatal Quality Collaboratives (PQC), require significant voluntary commitment of resources at the state and provider levels, which depend on political will and economic circumstances. States collect data in different maternal-child health initiatives, including Maternal Mortality Review Committees (MMRC) and PQCs, while payers collect data in their electronic health record systems (pharmacy utilization, clinical outcome data, patient demographic information, and more).[11] National agency reports, such as the *National Healthcare Quality and Disparities Report* by the Agency for Healthcare Research and Quality, provide information about disparities at the regional level, but lack specific equity metrics and benchmarks needed to assess and improve quality at the organization or provider level.[12] Payers, providers, health departments, and communities all lack data on birth health care outcomes stratified by race and ethnicity. Without a means to define and collect these data, policy and practice changes cannot be accurately assessed to determine their impact on maternal and infant health outcomes.

Moreover, there is no accountability mechanism to set consequences for inequitable care in the U.S. Birth care providers comprise a broad range of professionals, including nurses, obstetricians, gynecologists, midwives, doulas, primary care physicians, physical therapists, case managers, and community health workers. All may provide care for birthing people in the prenatal, labor and delivery, and postpartum periods. Birth outcomes are also influenced by environmental, demographic, cultural, and subjective factors.[13] Therefore, differentiating responsibility for accountability, care gaps, and unmet needs requires multidisciplinary analysis of the care journey and the individual.

In the social sciences, conceptual frameworks are developed through qualitative processes of theorization.[14] Combining theory, analysis, and observation, conceptual frameworks name the actors, participants, environmental influences, and concepts that contribute to outcomes, while making explicit the relationships between them. Frameworks guide development of work, and show the interactions between system components. Although no framework can reflect the changing complexities of reality with complete accuracy, a measurement framework can be a guide for new ways of thinking by illuminating assumptions, provoking questions, and generating new insights. In the context of health care quality, frameworks are used to develop clinical guidelines,[15] evaluate impact, and develop quality improvement action plans.[16] Although maternity care frameworks have been developed and used in differing care contexts,[17] none currently exist with a focus on measurement for accountability.

BEAM Initiative

The goal of the BEAM initiative is to develop, validate, and implement an actionable set of measures aligned across levels of the delivery system (including community and patient partners) to drive equitable care for Black birthing people. Novel to this work is the purposeful centering of the voices of Black birthing people as a foundation for birth equity measurement.

The goal of Phase I was to establish a birth equity framework for bundling measures to work across the health care system and to identify existing measures or new measure concepts that can work within this framework. Phase II will establish feasibility through pilot testing of the framework across the health care system. Phase III will spread learnings through a toolkit and dissemination activities. Table 1 outlines the timeline, goal, processes, deliverables, and impact for each phase.

Table 1. Overview of BEAM Initiative Phases and Goals

	PHASE I June 2022 to December 2023	PHASE II 24 months	PHASE III 12 months
Goals	Establish a birth equity measurement strategy that promotes system alignment	Develop measures and establish feasibility of the birth equity measurement framework	Inform national evaluation programs for quality improvement and accountability
Process	Conduct an environmental scan and key stakeholder interviews	Develop and pilot test measures	Develop a toolkit describing best practices
	Build consensus through a multistakeholder advisory panel	Build consensus through a multistakeholder advisory panel	Engage in dissemination activities to promote and implement measure bundles into national accountability programs
Deliverables	Birth equity measurement framework	Birth equity measure specifications	Widely disseminated change package and curated measure bundles
	Prioritized measure concepts for Phase II	Pilot test results	
Impact	Quality measurement approach centered on Black birthing people	Validated measure bundles to advance birth equity across the delivery system	Birth equity measure set implemented into national standards, payment models, and programs to improve outcomes

FRAMEWORK DEVELOPMENT

Environmental Scan

To better understand the landscape of existing quality measures as well as provide background and context for development of the Birth Equity Measurement Framework, an environmental scan was conducted between August 2022 and February 2023. Its aim was to identify 1.) the extent of perinatal health and health care disparities; 2.) evidence-based and proposed strategies for addressing perinatal health disparities; and 3.) the existing birth equity and maternal health measurement landscape. The scan included a comprehensive review of literature (peer-reviewed articles, gray literature, issue briefs, policy documents, white papers), interviews with birth equity and maternal health measurement experts and scholars, and a review of existing quality measures for birthing people. A summary of findings from the environmental scan are provided in a separate report.[5]

Key Stakeholders Interviews

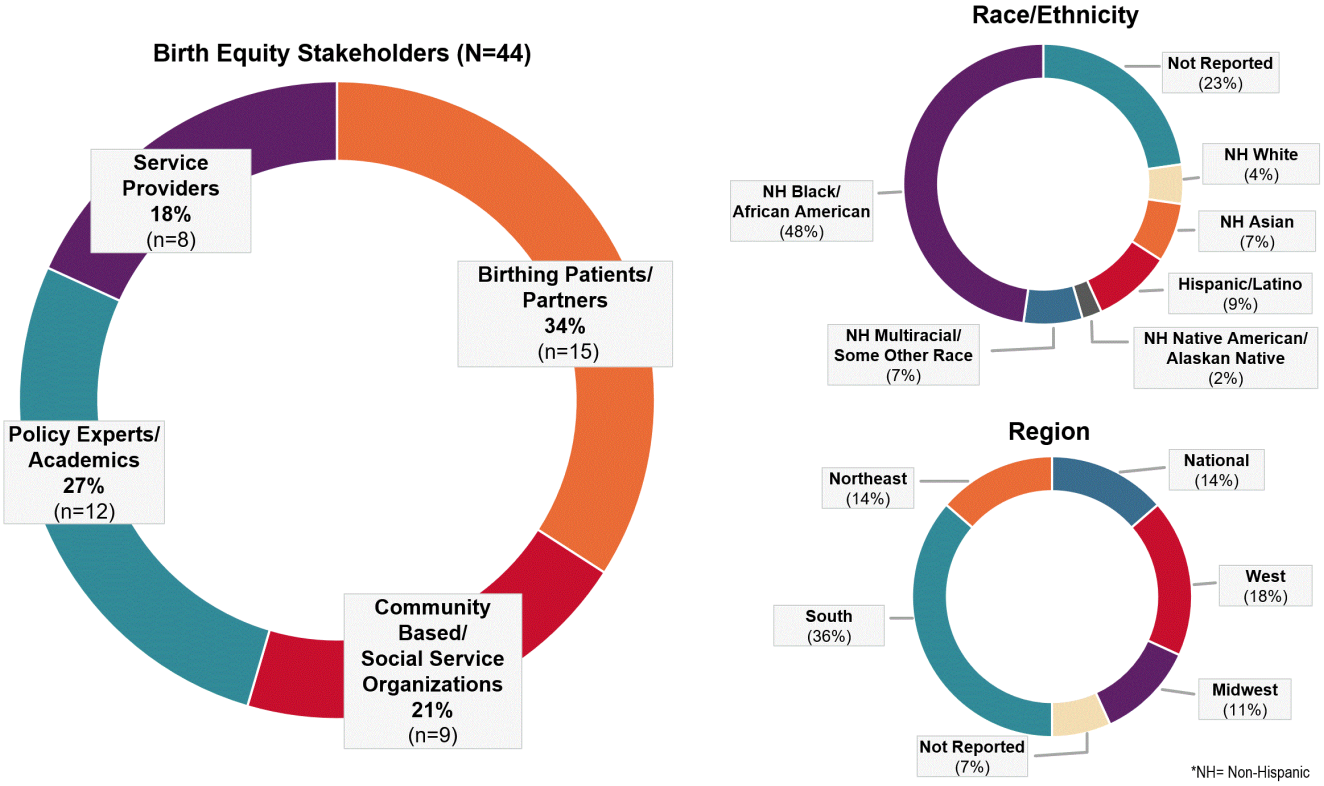
Key stakeholder interviews were conducted April–June 2023. A purposive sampling methodology was employed to ensure adequate representation among stakeholders. Individuals included for participation were 18 years of age or older and English-speaking, and had experience or knowledge of birth, labor and delivery, and or measure development. Interviews aimed to uplift the lived experiences of individuals with expertise in birthing through either personal experience or field work. Given the disproportionate impact of disparities in maternal health outcomes among women and birthing people of color, the majority of engaged stakeholders represented historically and currently marginalized communities, had lived birthing/reproductive experiences in the U.S., and/or were engaged in efforts to promote birth equity.

An interview guide was developed to understand stakeholder perspectives on findings from the environmental scan and to solicit their input on development of a birth equity measurement framework. Each interview was held virtually using Zoom software, was led by a trained facilitator, and included a notetaker. The research team comprised seven interviewers who identify as women and birthing people, and represent a range of racial, ethnic, cultural, and religious backgrounds and reproductive experiences. Efforts were made to ensure diverse team member representation across interviews.

Guiding questions explored stakeholder perspectives on existing perinatal health and health care disparities and recommended strategies to promote birth equity and enhance the maternal health quality measurement landscape. Environmental scan findings were presented visually and orally to help guide the interview process. All interviews were audio recorded, transcribed verbatim, and coded by multiple researchers using Dedoose software (version 9.0.107).[18] Grounded theory was employed for transcript analysis to allow an iterative and dynamic approach to analyzing the complex and multidimensional framework development process.

Forty-one semi-structured interviews were conducted, engaging 44 stakeholders. Interviewees included birthing patients and partners, policy experts/academics, community based/social service organizations, and service providers (including clinicians and birth workers). Several stakeholders represented multiple stakeholder groups, but were classified based on their primary organizational affiliation. Nearly half (48%) of stakeholders identified as Non-Hispanic Black/African American. Remaining stakeholders identified as Hispanic/Latino (9%), Multiracial/Some Other Race (7.0%), Non-Hispanic Asian/Pacific Islander (7.0%), Non-Hispanic White (4.0%), or did not report their racial/ethnic identity (23%). Stakeholders represented all major U.S. regions (Figure 1).

Figure 1. Characteristics of Birth Equity Stakeholders



Key findings from stakeholder interviews included: 1.) recommended changes to and prioritization of the disparity list; 2.) recommended changes to and prioritization of the strategies list; and 3.) suggested measures and how to apply them. Figure 2 displays disparities and strategies prioritized by stakeholders and deemed to be most impactful to hold systems accountable to achieve birth equity. Although stakeholders agreed that all identified disparity domains were important, mental health outcomes and access to high-quality care emerged as leading disparities to be addressed.

Stakeholders emphasized the importance of defining high-quality care—and of who defines it—and ensuring that access to such care encompasses community-based models deemed most effective among birthing populations impacted by disparities. Many stakeholders also emphasized social drivers of health and explicitly calling out systemic racism and unequal access to power as root causes of disparities.

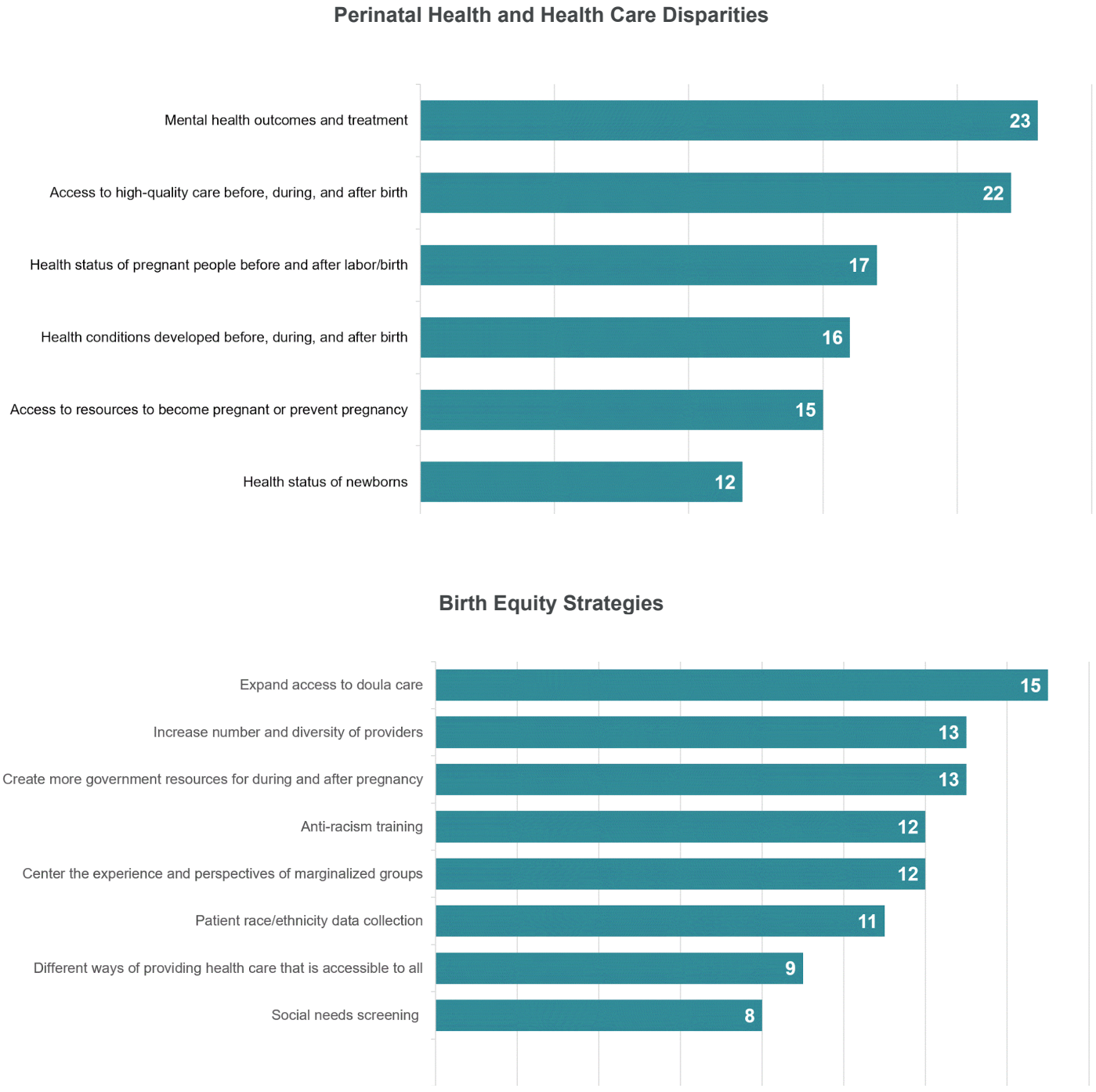
> *"...**We know how common postpartum depression and anxiety are.** We know that this is a huge transition and adjustment. We know that moms need to be looked at after their body has... delivered a baby or after they've had a C-section. We know that, physically, they need to be cared after, they need to be checked in on. **I know we know that, mentally, they need the same thing.***
>
> - Community-Based / Social Service Organization

> *"**I think that doula care is something I really wanted. And I feel that wasn't an option for me because of insurance [not] covering it.** I don't know if that's the case for all insurances. **But it just seems like they don't see it as a necessity when personally, I think it's a necessity."***
>
> - Birthing Patient / Partner

Leading birth equity strategies identified by stakeholders included providing more doula care, expanding the number of people who provide health care to birthing people so providers have similar racial, ethnic, and cultural backgrounds as the birthing people they serve, and creating more government resources during pregnancy and after delivery. Stakeholders highlighted expanding access to doula care, addressing existing barriers (e.g., lack of educational information/resources for birthing people and their families, lack of support by some providers), and implementing necessary payment reforms to support expansion of modified models of care. This aligned with the focus on workforce diversity, as stakeholders emphasized the importance of not only increasing the racial/ethnic and cultural diversity of providers, but also increasing the diversity of the types of providers who engage with the birthing population (e.g., nurse midwives, doulas).

Additional consideration for creating more government resources was recommended, as many stakeholders expressed the need to be thoughtful when developing such efforts, given the nuanced relationship between various levels of government and birthing populations most impacted by disparities, related stigma, and how that relationship affects access to care.

Figure 2. Stakeholders Perceptions of Most Impactful Disparities and Strategies to Achieve Birth Equity



Interviewed stakeholders also provided perspectives on how to best measure success in achieving birth equity in the health care system. Suggested measure concepts were categorized across six key domains: 1.) Optimal Care; 2.) Equitable Care; 3.) Access to Care; 4.) Physical Health; 5.) Mental and Emotional Health; and 6.) Aspects of Care and Treatment. Descriptions of each domain and examples of suggested measures in each domain are displayed in Table 2.

Table 2. Stakeholder Recommendations of Measure Concepts for Development

Measure Domains	Suggested Measure Concepts
Optimal Care Care provided to an individual to help them exercise their independence and maintain dignity	Referrals to community resources/services and closing loops on the referral process (e.g., identify patient use of community resources/ services)
	Communicate/connect hospitals and the community
	Identify culture and values of the patient, and align care
	Access to doulas (e.g., knowledge of doulas, prenatal, labor/delivery, postpartum)
Equitable Care Holding our health care system accountable for providing equitable health care for birthing people	Identify and screen for social needs
	Concordance with providers /staff and patients/community
	Access and use of resources (e.g., support groups), information and social services
Access to Care Ensuring that birthing people have access to timely and appropriate care	Access to timely and appropriate care (culturally congruent, high quality, geographically accessible/transportation)
	Number of visit/connections with community health worker, community organization, and/or case worker
	Amount of time with physician
Physical Health Physical and clinical outcomes to hold systems accountable	Manage and monitor development of comorbidities or complications
	Access, coordination with, and referrals to specialist
	Time from symptoms to treatment
Mental and Emotional Health Mental and emotional health outcomes to hold systems accountable	Mental health screening (e.g. screening at multiple times, during pregnancy and postpartum, history of mental health)
	Screening for trauma or adverse events (e.g. miscarriage, molestation, assault, abortion)
	List and access to resources and services for mental health
Aspects of Care and Treatment How treatment and care are provided	Patient-reported experience measures (e.g. prenatal, postpartum, community health workers, providers, services)
	Communication and transparency during prenatal care, labor/delivery
	Alignment of expectations/wants versus experience
	Being heard and listened to/affirming, genuine care

Advisory Panel Engagement

The BEAM Advisory Panel, a multistakeholder group with representation across the perinatal field, played a pivotal role in shaping the exploration and creation of birth equity measurement strategies throughout Phase I. Intentional effort went into developing this panel, to ensure inclusion of diverse perspectives and practitioners in the field (patient advocates, community leaders, researchers, policymakers, service providers, including birth workers), individuals who reflected the target population of interest for this initiative, and/or who serve and engage with Black and other marginalized communities. The lived experiences and expertise of panel members advanced every step of this work. During the advisory panel's three interactive meetings, members actively contributed to discussions about the environmental scan, key stakeholder interviews, and development of the Birth Equity Measurement Framework. In the initial meeting (November 2022), the BEAM team presented an overview of the project's goals and shared preliminary findings from the environmental scan. This comprehensive introduction set the stage for collaborative discussions between the BEAM team and panel members, establishing a shared understanding of the project's purpose and methodology.

During the second meeting (July 2023), the advisory panel helped synthesize findings from the environmental scan and key stakeholder interviews. Leveraging their expertise and lived experiences, panel members provided valuable feedback on suggested components of the Birth Equity Measurement Framework, including topics, items, and concepts to be included. Their insights informed the initial outline of the framework and contributed significantly to its development. The BEAM team presented the draft framework in two meetings in October 2023, showcasing how panel member feedback and environmental scan findings had been incorporated into the design. Panel member suggestions and discussions to refine the framework ensured that the framework was not only comprehensive, but also sensitive to the needs and perspectives of diverse stakeholders in maternal health. Through this engagement, the advisory panel helped ensure the framework's relevance, effectiveness, and potential positive impact on birth equity in the health care system.

Human-Centered Design Approach

A Human-Centered Design approach[19] was used to conceptualize the Birth Equity Measurement Framework. This approach employs a multi-phase process: 1.) Empathize; 2.) Define; 3.) Ideate; 4.) Prototype; 5.) Test. The Empathize phase centers the user to gain an empathetic understanding of the problem. This phase was conducted in the environmental scan and key stakeholder interviews, as these activities identified areas of concern in birth equity measurement that are most relevant to individuals affected and marginalized by disparities in maternal health care. This information was then organized in the Define phase. After each phase, the project team consulted with the BEAM Advisory Panel for key informant check-in and accountability.

BEAM team members analyzed findings from the environmental scan and stakeholder interviews to identify key components of the Birth Equity Measurement Framework, then met to complete the Ideate phase and begin Prototype. The team generated as many ideas as possible to consider all possible conceptualizations of the Birth Equity Measurement Framework and which to consider for achieving birth equity. The team transitioned to the Prototype phase by bringing solutions together in draft framework structures, framework components, and measurement concepts for consideration by the advisory panel.

During a two-day, in-person meeting with the BEAM Advisory Panel, panel members were presented with findings from each phase and began developing the Birth Equity Measurement Framework prototypes. The goal was to identify the best possible framework to hold systems and institutions accountable through birth equity measurement. The challenge was accounting for the complexity and multifaceted nature of the birthing person's experience, the different health care needs at each phase of perinatal care, and interactions with the multiple layers of our health care system and services that operate under the weight of racism, discrimination, and social drivers of health. After numerous iterations of prototypes and testing and challenging ideas, the team arrived at a multidimensional framework.

Testing, the final phase of the Human-Centered Design approach, was completed through virtual meetings with advisory panel members who did not attend the in-person meeting. Members were asked to consider existing birth equity challenges in our health care system and to apply the prototype framework as a guide for accountability. The BEAM team asked advisory panel members to rank and prioritize measurement concepts to inform priorities for Phase II of this initiative. Findings from the prioritization process will be provided in a future report.

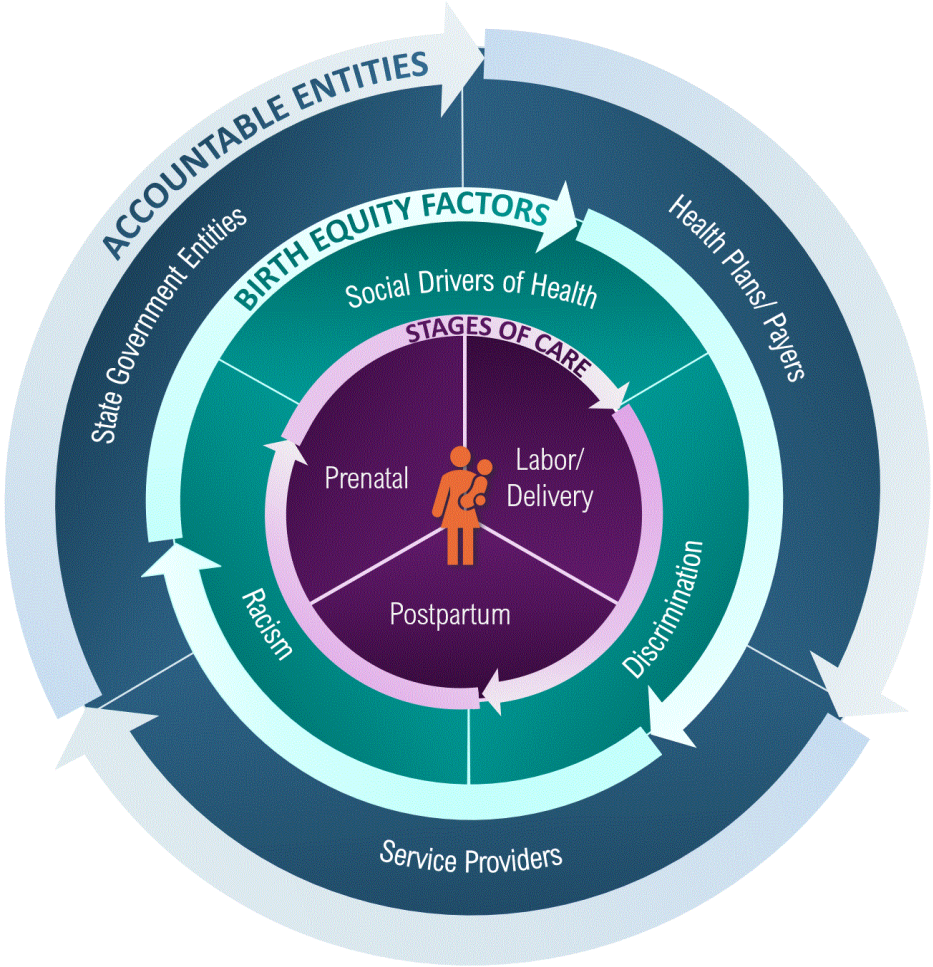
THE BIRTH EQUITY MEASUREMENT FRAMEWORK

The Birth Equity Measurement Framework is a dynamic visual that illustrates what needs to be addressed to provide equitable birthing care, and who should be accountable for quality of care in the maternal health care system. The framework's four layers are grounded in evidence from the literature and discussions with birth equity stakeholders. The framework comprises a core layer (the birthing person) and

three rotating layers (stages of care, birth equity factors, accountable entities) that represent guiding principles for birth equity measurement and the interconnectedness of salient factors to capture in quality measurement (Figure 3).

Birth equity stakeholders, policymakers, and public health and health care leadership can use the framework as a guide for conceptualization and accountability of our health care system. The Birth Equity Measurement Framework is also a comprehensive tool that can generate novel and compelling questions about birth equity measurement; stimulate conversation about the who, how, why, and where of birth equity measurement; and provide a foundation for birth equity measurement developers, implementers, and decision makers to gain a greater understanding of birth equity measurement accountability.

Figure 3. The Birth Equity Measurement Framework



Framework Components

Birthing Person

The first layer of the Birth Equity Measurement Framework represents the **birthing person.** This layer is based on the birth equity measurement principle of centering the birthing patient's background and perspective. The birthing person is intentionally placed at the center of the framework, as the birthing person is the focus of birth equity. In order to provide the most equitable care, stakeholders must highlight and center each individual birthing person's unique health history and needs, while simultaneously acknowledging the range of cultural, religious and spiritual backgrounds, values, and expectations they bring to the birthing experience. As mentioned above, Black

birthing individuals face the most significant disparities in maternal health outcomes, and are burdened with a multitude of structural and social influences on their health.[1–4] Given the intersectionality of identities and layered influences on health, its crucial for these characteristics to be encompassed by and centered as the foundation of birth equity measurement. A crucial measurement gap highlighted by the environmental scan and stakeholder interviews is scarcity of patient-reported outcome and experience measures to hold the maternal health care system accountable for providing equitable care.[5] Placing the birthing person at the center calls attention to the need to bridge this gap in data and accountability.

Stages of Care

The second layer of the Birth Equity Measurement Framework represents the **stages of care,** which include prenatal, labor/delivery, and postpartum (up to 12 months). These stages highlight the birth equity measurement principle of promoting accountability across all stages of birthing care. Based on the environmental scan, most quality measures reside within the labor/delivery stage of care, and focus on singular outcomes (e.g., Nulliparous, Term, Singleton, Vertex [NTSV] Cesareans, low-birth weight, stillbirths).[5] Because childbirth does not happen in a vacuum, both qualitative and quantitative outcomes are needed to highlight the successes or failures of the maternal health care system. Most important, the birthing person engages with the health care system at multiple points across the perinatal period—those points must also be captured. Birthing care should be promoted as a continuum, as opposed to something that happens at singular points in time. Moreover, centering equity along the continuum of care ensures that the health care system is more proactive as health issues and inequities arise, as opposed to being reactive and waiting until disparate outcomes have already occurred.

"In order to center experiences [and] voices of marginalized groups, ***you have to know the population that you're serving...*** *Not just race and ethnicity, but also socioeconomic status, profession or where they work. Because intersectionality, these things are layered... You might make a lot of assumptions about what I do, where I live, how I access care, what I know, whether it was [an] intended pregnancy or not. We all are humans, we all consume...****And we know for a fact that people are not only the data that they present. You have to qualify that data with understanding the person in front of you."***

- Policy Expert / Academic

"... [C]onduct anti-racism training. Great. Fine. But ***I would say have accountability structures in health care systems to address racism.*** *We can train people all we want, but if there's no accountability structure, then people will click through the PowerPoint, they will scroll through their phones through the training. All of this I have seen... I have the mandatory training, 45 minutes clicking through a PowerPoint where someone's like, "What is racism?" And that does not require any engagement.* ***I think any kind of engagement around racism or other systems of oppression has to involve interpersonal accountability. If it doesn't, people zone it out, they don't process it. They don't integrate it into practice."***

- Service Provider

Birth Equity Factors

The third layer of the Birth Equity Measurement Framework highlights **birth equity factors,** which represent the principle of addressing social conditions and systems of oppression. Birth equity factors include racism and discrimination (structural, institutional, interpersonal); and social drivers of health (e.g., housing, transportation, food security). Birth equity cannot be achieved without explicitly acknowledging how these factors affect not only the birthing person, but also how the health care system interfaces with the birthing person. Especially in the case of Black birthing patients, many disparities captured in the environmental scan and discussed in stakeholder interviews arise from social factors and oppressive systems operating in conjunction. Therefore, to address the interconnectedness and interplay of these forces, the outlined birth equity factors need to be called out explicitly.

Additionally, based on the environmental scan, there are no social needs screenings or follow-up measures specifically for birthing people, and few structural measures are currently used for promoting accountability.[5] With this context in mind, this layer is placed in the middle of the framework to underscore how birth equity factors influence the quality of care birthing people receive, and to demonstrate where actors should be held accountable, especially in connection to these factors.

Accountable Entities

The final layer of the Birth Equity Measurement Framework addresses **accountable entities,** actors that should be held accountable for advancing birth equity: 1.) state government entities; 2.) payers and health plans; and 3.) service providers (including hospitals, birth centers, clinicians, allied birth workers, and community organizations). These entities highlight the birth equity measurement principle of fostering joint accountability across the health care system. Accountability requires alignment across entities that have the most profound impact on how birthing patients interface and receive care.

According to the environmental scan and discussions with stakeholders, quality measures often focus on service providers, such as clinicians and hospitals,[5] but they are not the only entities responsible for disparities in maternal health care, and working only at the provider level neglects the larger structural entities and policies that differentially impact maternal health care. Even in reporting programs that aim to improve the quality of national health care, there are a lack of standardized quality measures, which leads to significant variability in the quality of birthing care across the country. Thus, in order to align the maternal health system toward birth equity, birth equity measures must ensure that these entities are held accountable to the same equity standards.

Framework Component Relationships / Interactions

The Birth Equity Measurement Framework structure organizes the range of contextual variables that inform birth equity and conceptualize the relationships of key variables for quality measurement. As mentioned above, central to the Birth Equity Measurement Framework is the birthing person, surrounded by rotating layers of stages of care (prenatal, labor/delivery, postpartum), birth equity factors (discrimination, racism, social drivers of health), and accountable entities (service providers, payers/health plans, state government entities) (Table 3) .This interactive, multi-layered framework conceptualizes how each component interacts, and captures the complexity of accountability through measurement not possible with a two-dimensional framework.

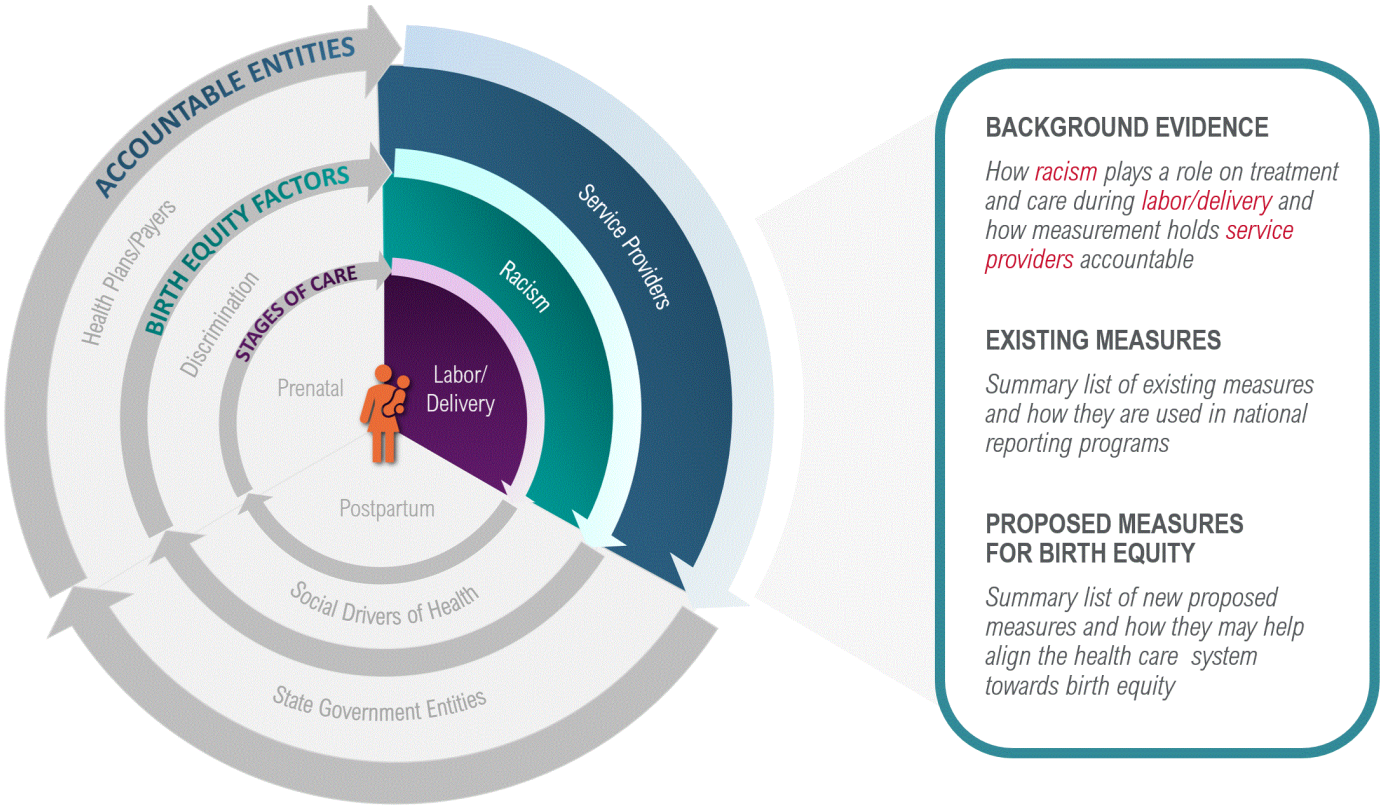
Table 3. Summary of the Birth Equity Measurement Framework

Layer	Principle for Birth Equity Measurement	Components
Birthing Person	Center the birthing person's background and perspective	Center of the framework
Stages of Care	Promote accountability across all stages of birthing care	Prenatal
		Labor / delivery
		Postpartum (12 months)
Birth Equity Factors	Address social conditions and systems of oppression	Racism (structural/institutional, interpersonal)
		Discrimination (structural/institutional, interpersonal)
		Social drivers of health (e.g., housing, transportation, food, security, violence exposure)
Accountable Entities	Foster joint accountability across the system of maternal health care	State government entities (set Medicaid priorities and regulations, direct resources, financing, and data systems)
		Payers, health plans (pay for and manage delivery of care across the health system, from pregnancy through postpartum)
		Service providers (includes hospitals, birthing centers, clinicians, allied birth workers, community organizations, providers of services to birthing people from pregnancy through postpartum)

The Birth Equity Measurement Framework is a multidimensional, interactive framework; a multilayered, moving wheel. Its structure was inspired by the pregnancy wheel that calculates due dates based on an individuals' first day of their last menstrual period which is often used by physicians, midwives, and nurses when meeting with patients during a prenatal visit. The stages of care, birth equity factors, and accountable entity layers turn independently to produce 27 different combinations of areas to be addressed to promote birth equity.

Future framework iterations will include a dialogue box with background information about how the layers align and function in our health care system, existing measures, and proposed measures for birth equity (Figure 4). For example, rotating the framework to align labor/delivery, racism, and service providers might result in information on racism's role in treatment and care during labor/delivery, and how measurement holds service providers accountable. Existing measures will be listed, such as NTSV C-section rates disaggregated by race/ethnicity, as well as proposed measures, such as patient-reported experience measures.

Figure 4. Example of the Birth Equity Measurement Framework Dialogue Box



Recommended Framework Use

The purpose of the Birth Equity Measurement Framework is two-fold: 1.) It is a guide for key principles of birth equity measurement; 2.) It is a tool to inform how accountable entities might envision strategies to promote birth equity. Its dynamic structure aims to stimulate systems-level dialogue about accountability through measurement, as multiple entities can be held accountable to a measurement concept or birth equity issue. The Birth Equity Measurement framework pushes the concept of birth equity beyond linear thinking, and compels discussion about accountability at each layer, the overlap and intersection of the layers, and the birthing person simultaneously. Beyond birth equity measurement, the framework can foster conversations about accountability anchored in each combination of interactions among the layers.

DISCUSSION

Frameworks are essential to enabling health care leaders, researchers, and policymakers to contextualize a range of variables that are important to consider. The Birth Equity Measurement Framework is a novel and necessary tool for birth equity measurement accountability. This framework can guide systems through the process of approaching, conceptualizing, and establishing a strategy to advance birth equity through measurement.

The Birth Equity Measurement Framework builds on and shares many key attributes of existing frameworks in maternal health. A brief review illuminated the range of approaches used by scholars to contextualize our health care system. For example, cyclical frameworks promote continuous action and demonstrate the ongoing work needed to address racism in health care; ecological frameworks illuminate the contexts and systems through which birthing people navigate their health and the health care system; linear frameworks outline the causal and sequential steps in our health care system; mixed frameworks capture features of all these frameworks.[20]

The WHO Maternal Morbidity Working Group developed a framework[21] that encloses the broad ramifications of maternal morbidity and includes the types of measures needed to capture what matters to birthing people, service providers, and policymakers. It has six key principles: 1.) Use a woman-centered approach (e.g. center their perspectives regarding their health); 2.) Maternal morbidity risks are cyclical; 3.) Maternal morbidity has lasting effects; 4.) Maternal health is a social and economic issue; 5.) Context and environment influence morbidity; 6.) Create groupings of maternal morbidity and demonstrate linkages with WHO guidance.[20] This framework and the Birth Equity Measurement Framework share the value of centering the birthing person to address systemic change.

Carmichael et al.[22] conceptualized severe maternal morbidity (SMM) through a framework that establishes a causal chain of events using an ecological model that encompasses the macrosocial (structural and societal factors) and the microsocial (individual clinical precursors that lead to SMM indicators). This framework is recommended for use in improving population-based research in SMM, and includes the birthing person's life experiences, social determinants, structural/societal factors, and historical context. It is grounded in reproductive health, health, and racial equity, and encourages community-engaged research. This framework, and the Birth Equity Measurement Framework, highlight how birth equity, drivers of health, and racism impact maternal outcomes.

Through quality measurement, the Birth Equity Measurement Framework can be used to obligate accountability for birth equity across the health care system. Measure developers can apply framework dimensions as they shape, prioritize, and develop concepts into measures. Policymakers and other stakeholders can ensure that birth-related quality measures in reporting and/or value-based payment programs align with the framework's dimensions. As a result, quality measures incorporated into programs can provide information on how well health care entities (e.g., states, health plans, hospitals, clinicians) perform on important aspects of birth equity, and how entities compare to their peers. Measures could be used to incentivize or penalize entities for reporting and performance, which in turn could drive health care entities to improve and pursue equity in birthing care and outcomes.

Limitations of Phase I of the BEAM initiative include not capturing a complete range of birthing experiences and perspectives, which hampered the ability to explore the intersectionality of experiences with regard to harm and marginalization experienced in and outside the health care system. Additionally, not all BEAM Advisory Panel members had an opportunity to provide feedback at all stages of project development (e.g., due to sabbaticals, family leave, scheduling conflicts). But the BEAM team ensured that a majority of panel members provided feedback before moving on to a next step or finalizing a decision.

In addition, although capturing different stakeholder perspectives was necessary, it did not allow for deep analysis of a stakeholder group's perspectives and experiences. However, interviews with birthing persons who had recent hospital labor and delivery experience were highlighted and centered throughout the project. Notably, the BEAM team recruited a representative sample of populations that have been, and are, marginalized by our health care system, which helped amplify their perspectives on framework and measure concepts.

The goal of Phase II is to develop measures and establish the framework's feasibility. The BEAM team will focus on developing and testing measure specifications from prioritized birth equity measure concepts identified in Phase I. Developed measure specifications will undergo testing with states/health systems to prove their feasibility (data capture, ability to report), validity (whether information is a true representation of the system being measured), and reliability (ability to distinguish between high and low performance) as indicators of birth equity. The framework introduced in this report will guide the specification and testing process throughout. At the end of the process, validated, tested measure bundles will be prepared for dissemination and implementation to advance birth equity throughout the health care system.

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About Reproductive Health Impact: The Collaborative for Equity & Justice

Reproductive Health Impact (RH Impact) was born out of a belief that all people are worthy of dignity and bodily autonomy and a desire to see all Black people and communities thrive. Our collaborative is rooted in the reproductive justice framework, places equity at the forefront to make all things possible and uses innovative approaches to systems change. We are addressing entrenched anti-Blackness and systemic racism in existing power structures to ensure all Black communities can experience health, safety, wellbeing, and radical joy.

In collaboration with communities, RH Impact challenges systemic inequities to achieve reproductive health equity. Through Black women-led scholarship, we apply research & evaluation to policy advocacy, capacity-building, and power-shifting strategies. We center Black women's lived experiences, scholarship, and activism.

About the National Committee for Quality Assurance

The mission of the National Committee for Quality Assurance (NCQA) is to improve the quality of health care. NCQA's vision is better health care, better choices, and better health. We use measurement, transparency, and accountability to highlight top performers and drive improvement.

Our Partnership

The BEAM initiative is the product of an equal collaboration between RH Impact and NCQA. Combining our different strengths, areas of expertise, networks, and resources, based on shared principles and commitments, enabled achievements that neither organization alone could reach. We look forward to deepening and continuing our work together in the later phases of this initiative.

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BEAM Advisory Panel

We express our deep gratitude to the BEAM Advisory Panel members who contributed their time and effort throughout this initiative. This work would not be recognizable without their professional expertise, scholarly research, and lived experience.

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Stakeholder Interview Participants

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In collaboration with communities, Reproductive Health Impact (RH Impact) challenges systemic inequities to achieve reproductive equity and justice. RH Impact applies research and evaluation to policy advocacy, capacity-building and power-shifting strategies while centering the lived experiences, scholarship and activism of Black communities.
www.rhimpact.org

The National Committee for Quality Assurance (NCQA) is a 501(c)(3) notfor-profit that uses measurement, transparency and accountability to improve health care. NCQA creates standards, measures performance and highlights organizations that do well. All this helps drive improvement, save lives, keep people healthy and save money.
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BIRTH EQUITY ACCOUNTABILITY THROUGH MEASUREMENT (BEAM)

A Joint Effort Between Reproductive Health Impact: The Collaborative for Equity & Justice and the National Committee for Quality Assurance